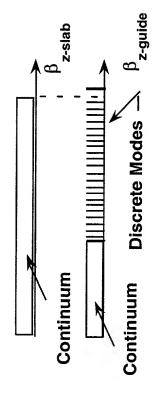
$\beta = (2\pi/\lambda) x$ Modal Index



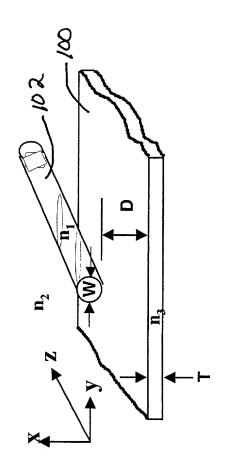


Fig. 1

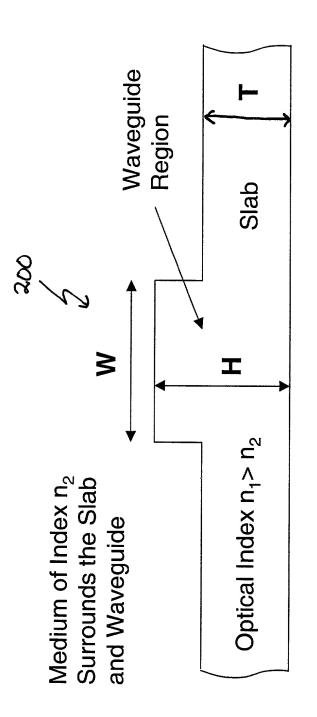


Fig. 2

Lateral Direction

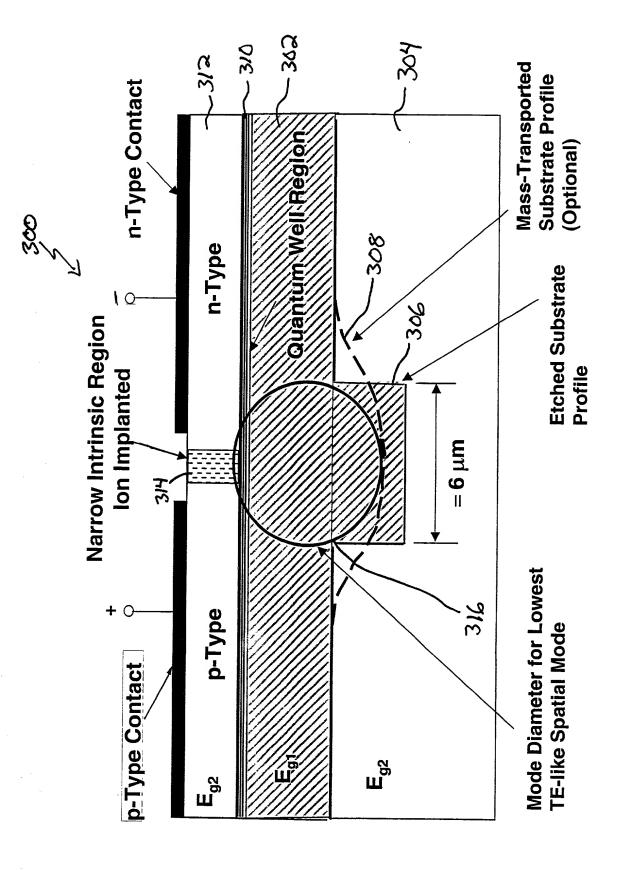


Fig. 3

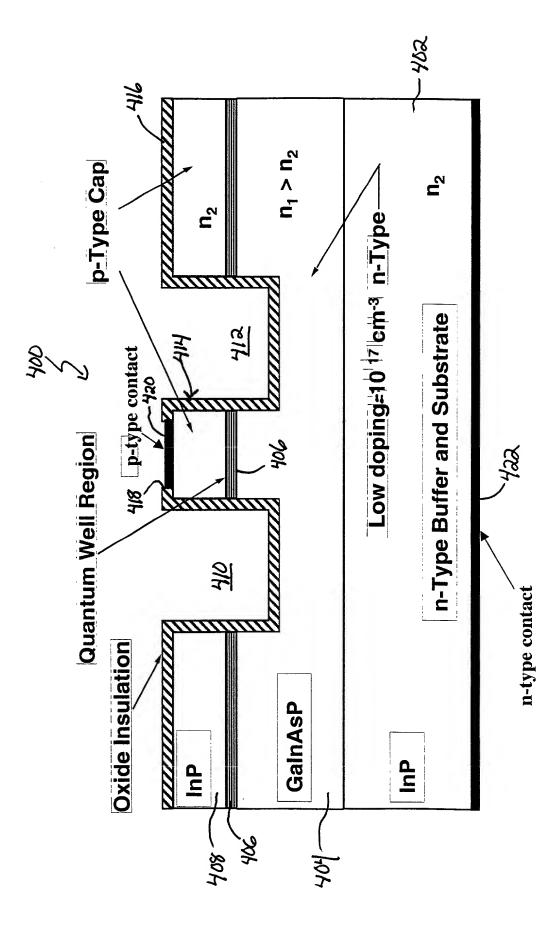
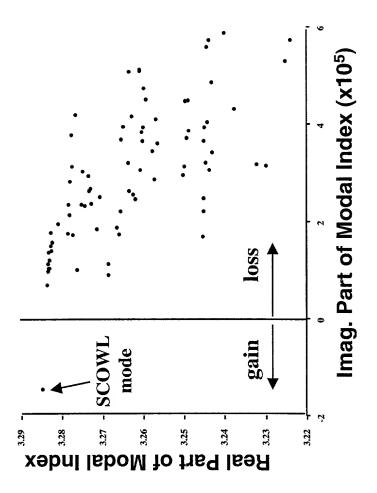
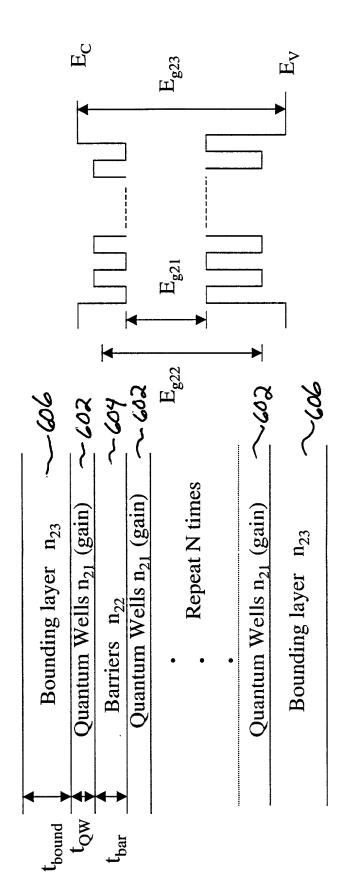


Fig. 4



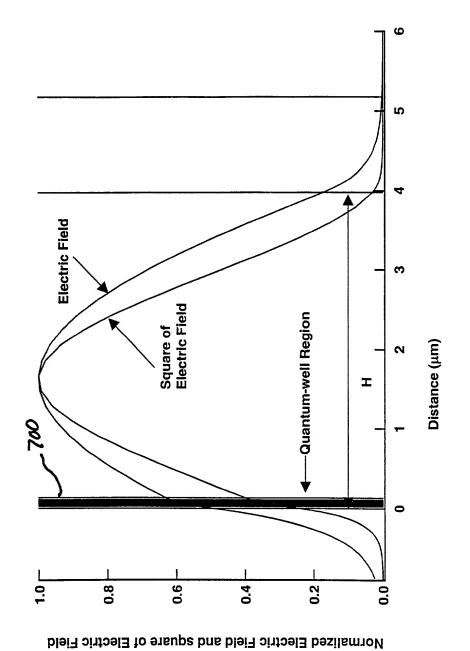




 $n_{21} > n_{22} \ge n_{23} \ge n_1 > n_2$ $E_{g21} < E_{g22} \le E_{g23} \le E_{g1}$

MQW Region Band Diagram

Fig. 6



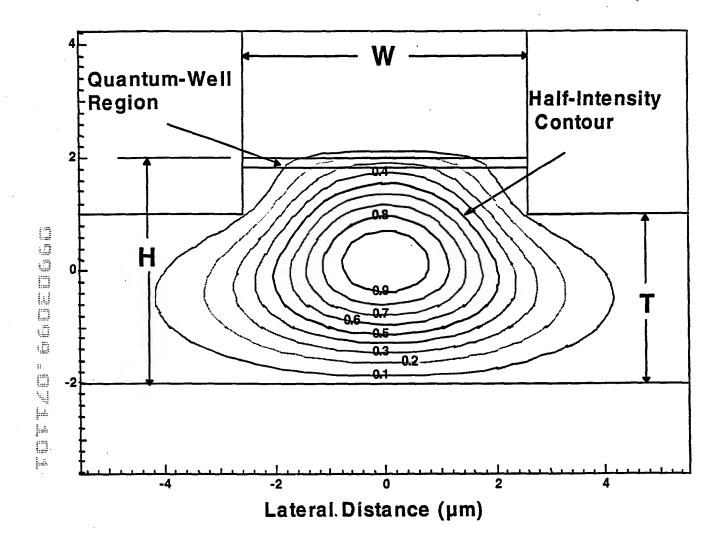


Fig. 8

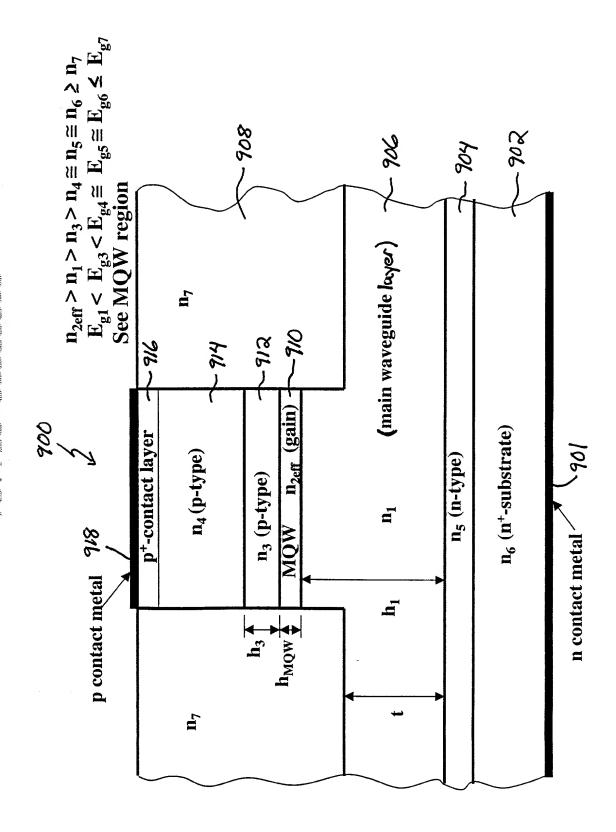


Fig. 9

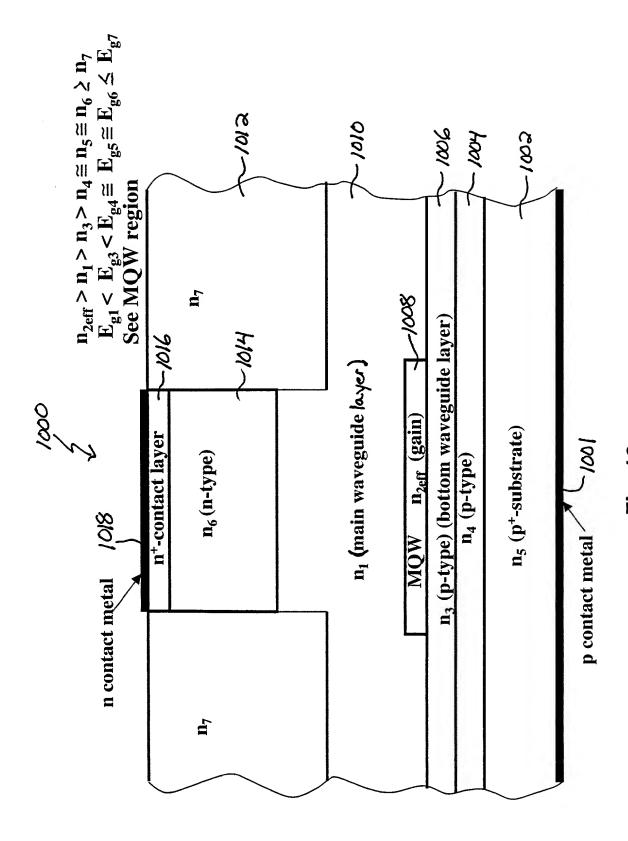


Fig. 10

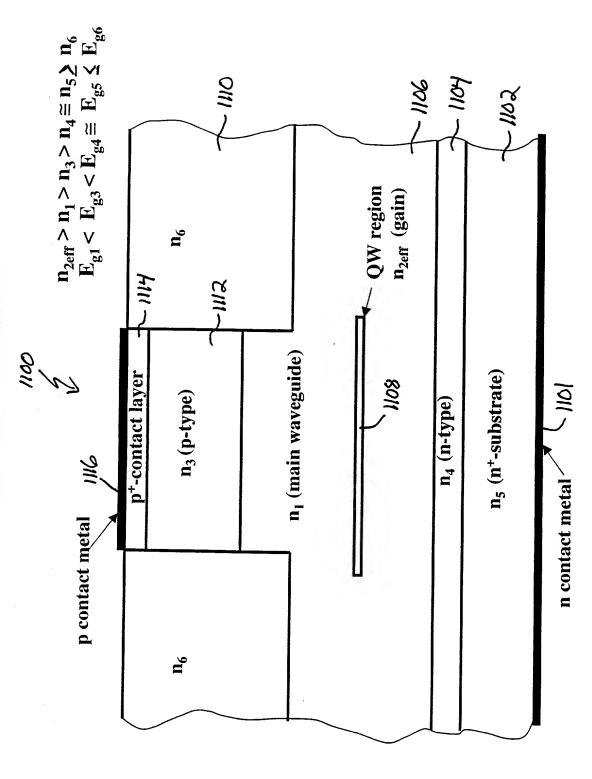
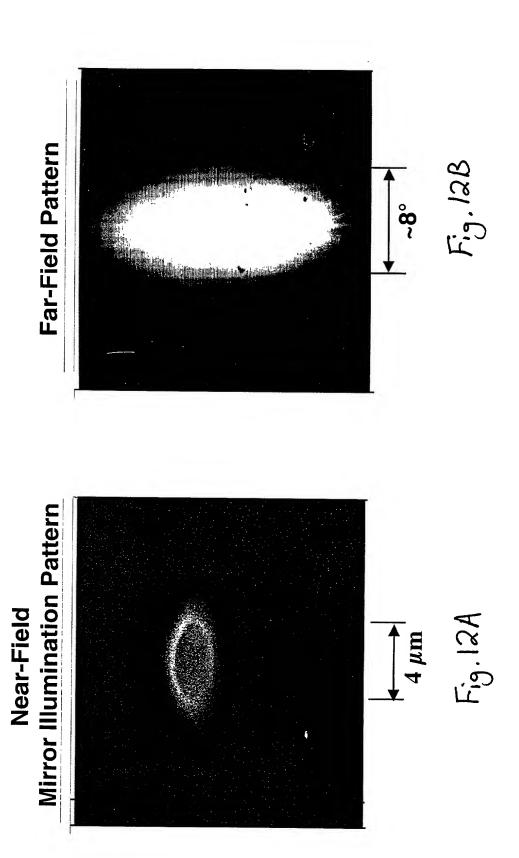
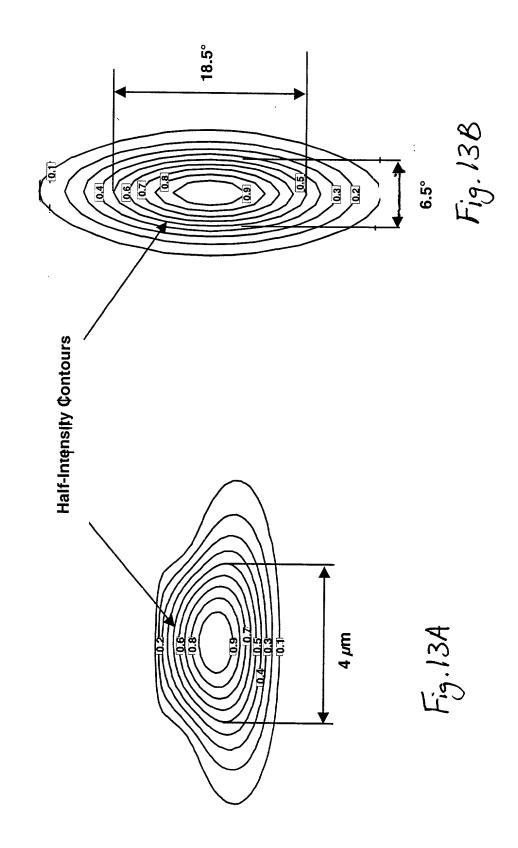


Fig. 11



Near-Field Pattern

Far-Field Pattern



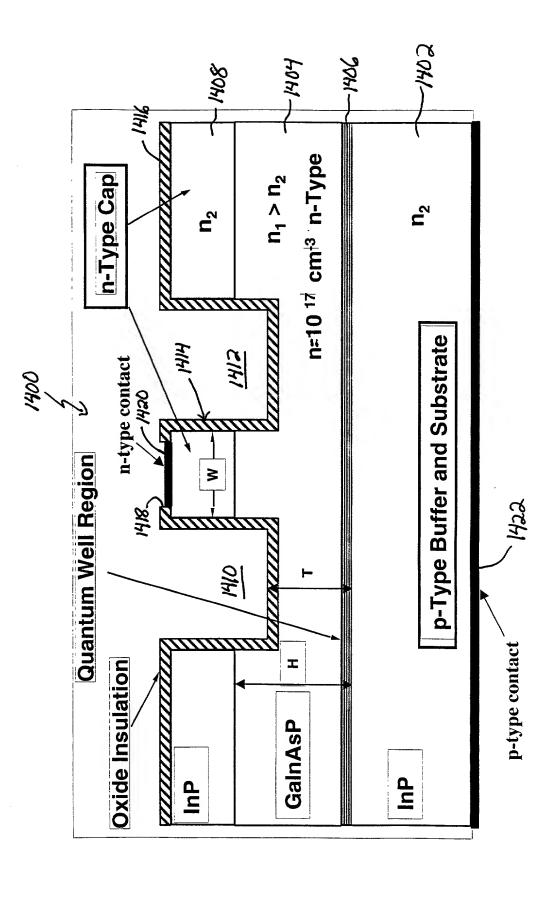


Fig. 14

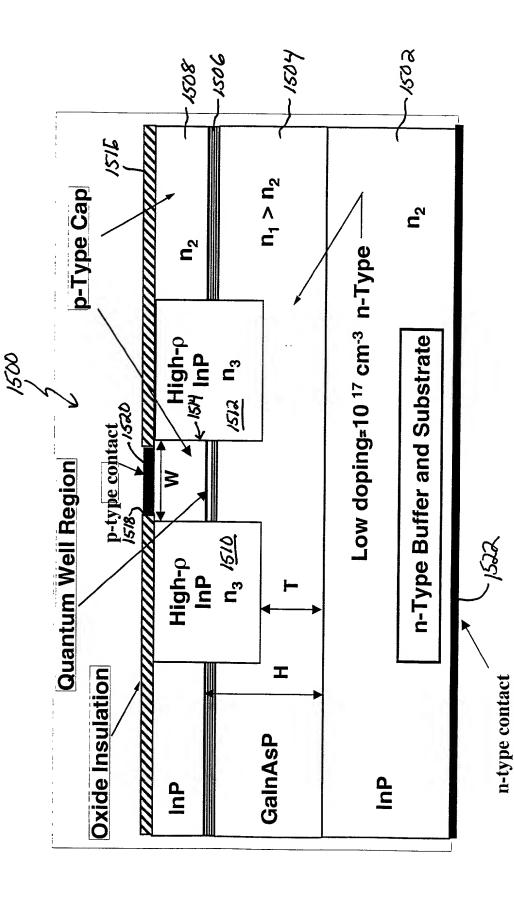


Fig. 15

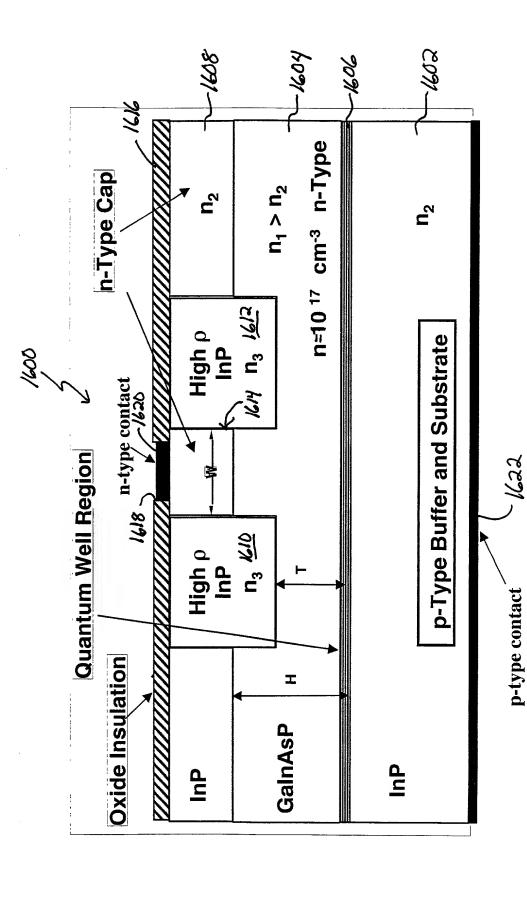


Fig. 16

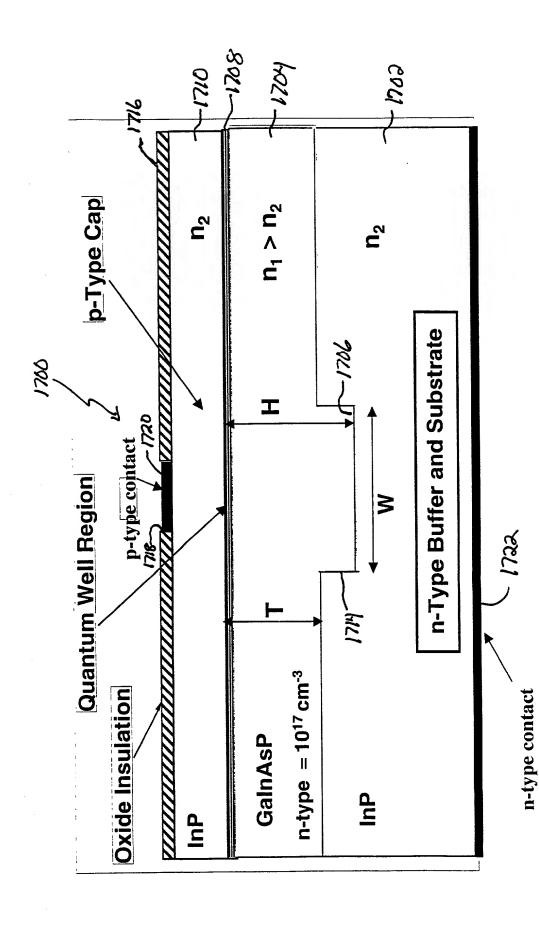


Fig. 17

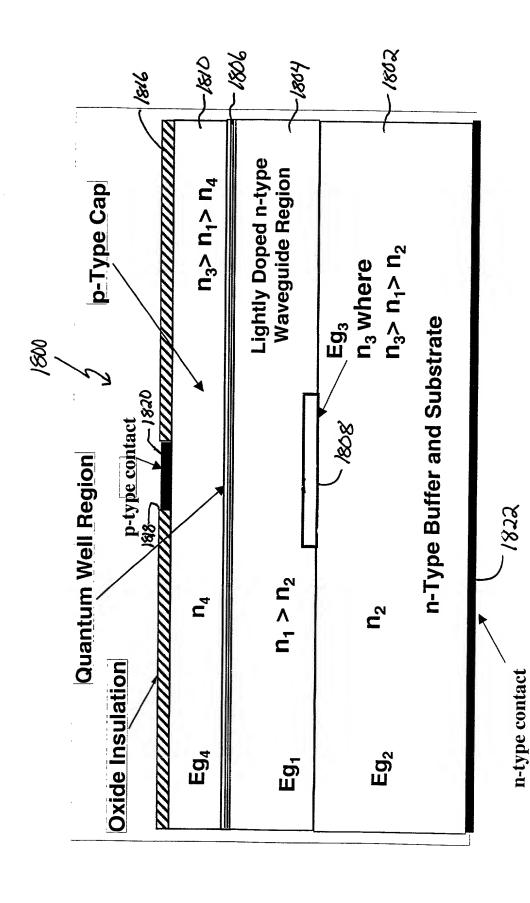


Fig. 18

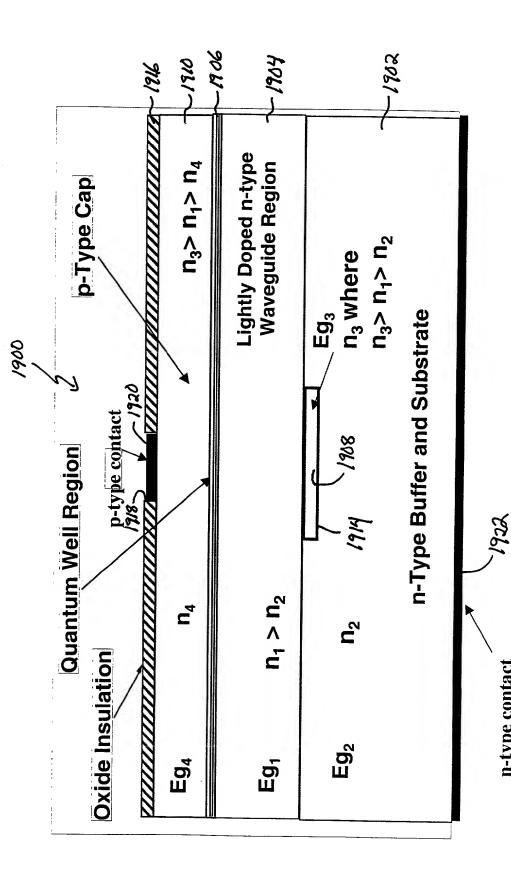


Fig. 19

n-type contact

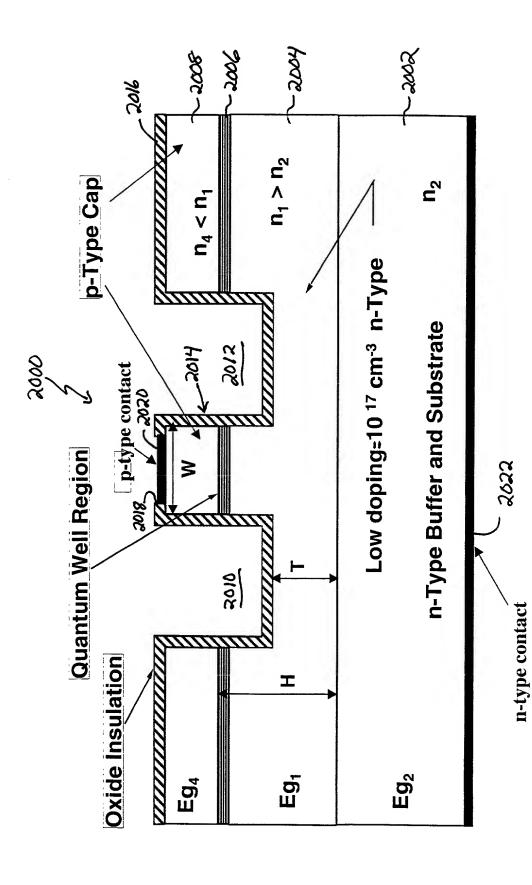


Fig. 20

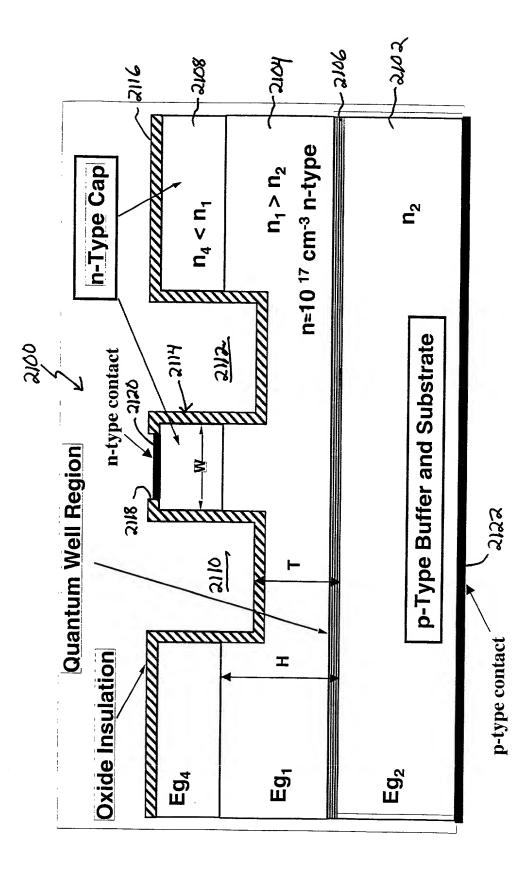


Fig. 21

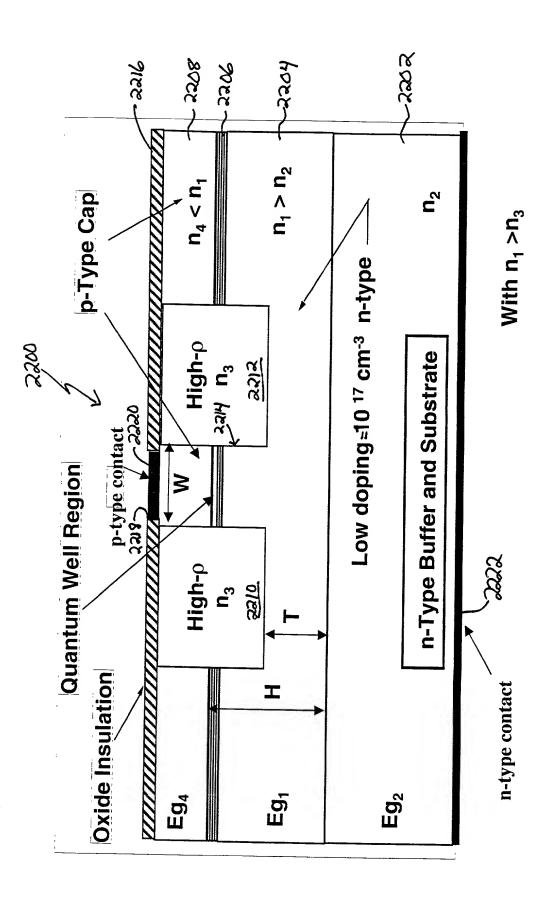


Fig. 22

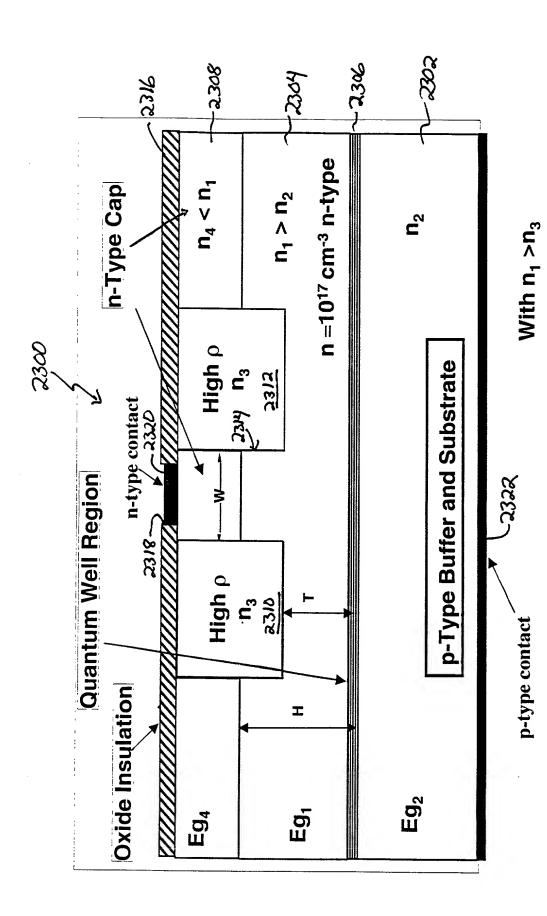


Fig. 23

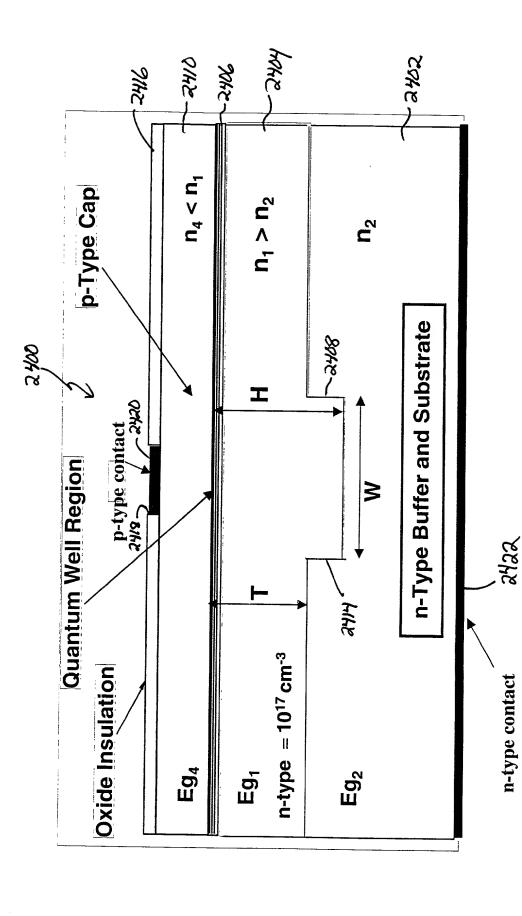


Fig. 24



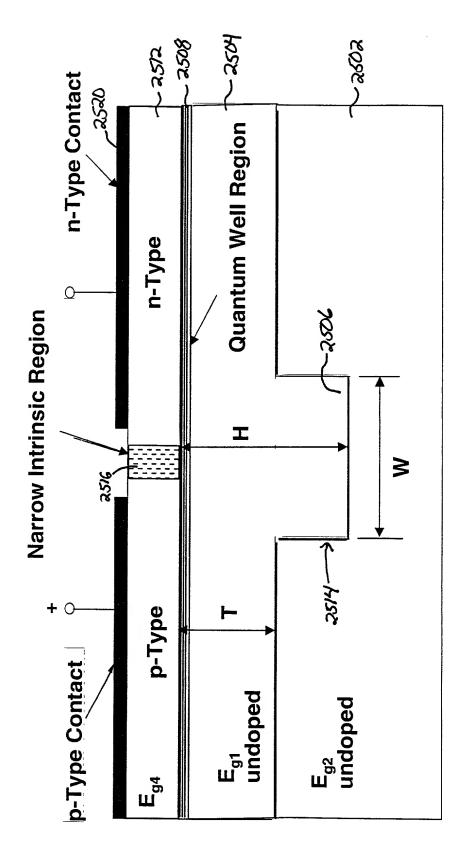


Fig. 25